



## Anxiety and depression in the Republic of Ireland during the COVID-19 pandemic

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Title

Anxiety and depression in the Republic of Ireland during the COVID-19 pandemic

Running Head

IRISH MENTAL HEALTH DURING COVID-19

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## Abstract

**Background:** The COVID-19 pandemic in Ireland resulted in a nationwide quarantine on March 27<sup>th</sup>, 2020. This study represents the first assessment of rates of anxiety and depression in the general population of Ireland during the pandemic.

**Aims:** Our first aim was to estimate the probable prevalence rates of generalized anxiety disorder (GAD) and depression, and to identify sociodemographic risk factors associated with screening positive for GAD or depression. Our second aim was to determine if COVID-19 related anxiety was highest amongst those in society at greatest risk of mortality from COVID-19.

**Method:** Self-report data was collected from a nationally representative Irish sample ( $N = 1,041$ ) online between March 31<sup>st</sup> and April 5<sup>th</sup>; the first week of the nationwide quarantine measures. Recognised cut-off scores on the GAD-7 and PHQ-9 were used to estimate rates of GAD and depression. Correlates of screening positive for GAD or depression were assessed using logistic regression analysis.

**Results:** GAD (20.0%), depression (22.8%), and GAD or depression (27.7%) were common. Screening positive for GAD or depression was associated with younger age, female sex, loss of income due to COVID-19, COVID-19 infection, and higher perceived risk of COVID-19 infection. Citizens aged 65 and older had significantly higher levels of COVID-19 related anxiety than adults aged 18-34.

**Conclusions:** Initial results from this multi-wave study monitoring changes in population anxiety and depression throughout the pandemic indicate that GAD and depression were common experiences in the population during the initial phase of the COVID-19 pandemic.

**KEY WORDS:** COVID-19, coronavirus, anxiety, depression, mental health.

### Significant outcomes

- More than one-in-four (27.7%) people screened positive for generalized anxiety disorder or depression during the first week of the strictest COVID-19 lockdown measures in Ireland.
- Risk-factors for anxiety or depression included younger age, female sex, loss of income due to COVID-19, COVID-19 infection, and higher perceived risk of COVID-19 infection.
- Anxiety specifically related to the COVID-19 pandemic was highest amongst citizens aged 65 years and older.

### Limitations

- The sample is representative of the general population, exclusive of persons who are currently institutionalised or in care.
- Self-report measures were used to screen people for generalized anxiety and depression.

## Anxiety and depression in the Republic of Ireland during the COVID-19 pandemic

In addition to representing a major threat to population physical health, the COVID-19 pandemic poses a threat to population mental health due to increased and prolonged feelings of fear and uncertainty; separation and grief; and disruption to social and economic systems.<sup>1</sup> Emerging international evidence indicates that posttraumatic stress disorder (PTSD) and depression symptoms are common in the general population during the early phase of this pandemic.<sup>2,3</sup> Another threat to population mental health is the implementation of nationwide quarantine measures enacted to curb the spread of COVID-19. While quarantine can be an effective public health measure,<sup>4</sup> it comes at significant economic, social, and psychological costs.<sup>5</sup>

The first case of COVID-19 was confirmed on the island of Ireland on the 27<sup>th</sup> of February 2020. As of July 5<sup>th</sup>, 2020, there have been 25,527 confirmed cases of COVID-19 in the Republic of Ireland, and 1,741 people have died.<sup>6</sup> While statistics fluctuate daily, more women (~57%) than men are being infected by COVID-19, the median age of patients is approximately 48 years, and the majority of infections have occurred in the capital city, Dublin.<sup>6</sup> Regarding deaths due to COVID-19, at the time of the survey, deaths were more common among men, the median age of those who had died stood at 83 years, 76% of those who had died lived in the east of the country (where Ireland's capital city, Dublin, is located), and at least 70% of those who had died had a confirmed underlying health condition.<sup>6</sup>

The government of the Republic of Ireland announced the closure of all schools, colleges, and childcare facilities, and banned all gatherings of more than 100 people on the 12<sup>th</sup> of March 2020. Mandatory government measures followed on March 27<sup>th</sup>, including the temporary closure of all non-essential services and additional physical distancing measures, and the stipulation that people were not to leave their homes except under necessary or exceptional circumstances. Coinciding with the initiation of these quarantine measures, we

conducted parallel nationally representative surveys during the first week of quarantine measures implemented in the UK ( $N = 2025$ ; England, Scotland, Wales, and Northern Ireland) and the Republic of Ireland, using identical research protocols, as part of a longitudinal study designed to assess the social and psychological impact of the pandemic.

The first UK survey took place a week prior to the Irish survey<sup>7</sup> and found that 22.1% (95% CI = 20.31, 23.93) of people screened positive for depression, 21.6% (95% CI = 19.83, 23.42) screened positive for generalized anxiety disorder (GAD), and 27.8% (95% CI = 25.80 - 29.71) screened positive for GAD or depression. Furthermore, screening positive for GAD or depression was associated with younger age, having more than one child in the home, reporting lower income levels in 2019, experiencing a loss of income due to the COVID-19 pandemic, having an underlying health condition (lung disease, heart disease, or diabetes), having a loved one with an underlying health condition (lung disease, heart disease, or diabetes), having a confirmed or suspected infection of COVID-19, and having a moderate or high level of perceived risk of infection of COVID-19 over the next month.<sup>8</sup>

#### *Aims of the study*

The current complementary study had two research objectives. The first was to replicate our UK population study by determining (a) what proportion of the Irish population screened positive for depression, GAD, and GAD or depression during the initial phase of the COVID-19 quarantine, and (b) if the sociodemographic risk factors associated with screening positive for GAD or depression in the UK were also associated with screening positive for GAD or depression in the Irish sample. The second objective was to determine if feelings of anxiety specifically related to the COVID-19 pandemic were highest amongst those individuals in Irish society identified as being most at-risk of death from COVID-19; that is those who were aged 65 or older, those who were male, those with an underlying health

condition (i.e., lung disease, heart disease, or diabetes), and those who lived in the east of the country.

## **Methods**

### *Participants*

Participants ( $N = 1,041$ ) were recruited from an online research panel representative of the general adult population of the Republic of Ireland. Stratified, quota sampling methods were used to select participants from the panel such that the sample was representative of the general population, as per the most recent Irish census,<sup>9</sup> in terms of three demographic variables: sex (male and female), age distribution (18-24, 25-34, 35-44, 45-54, 55-64, and 65+), and geographical location (i.e. from the four provinces of the Republic of Ireland: Leinster, Munster, Connaught and Ulster). Data collection started on 31<sup>st</sup> March 2020, 31 days after the first confirmed case of COVID-19 in the Republic of Ireland, 19 days after the first physical distancing measures were enacted (i.e., closure of all childcare and educational facilities), and two days after the Taoiseach (the Republic of Ireland's Prime Minister) announced that people were not to leave their homes.

Participant inclusion criteria included those aged 18 years or older at the time of the survey, with the ability to complete the survey in English. Potential participants were contacted via email, informed about the nature of the study, and invited to participate. If consenting, participants completed the survey online and were reimbursed by the survey company for their time. The survey was completed on the 5<sup>th</sup> of April 2020, having reached the pre-determined quotas as per the three aforementioned demographic variables. Ethical approval for the study was granted by the ethical review board of the University of Sheffield and Ulster University.

### *Measures*

**Demographics:** Participant sex (0 = Male and 1 = Female) and age (18-24, 25-34, 35-44, 45-54, 55-64, and 65+) were assessed as per the quota sampling.

**Living location:** Participants indicated if they lived in a 'City', 'Suburb', 'Town', or 'Rural' location.

**Lone adult:** Participants were asked 'How many adults (18 years or above) live in your household (including yourself)?' and were provided with options ranging from '1' to '10 or more'. The data were recoded into a binary variable to represent living without another adult in the home.

**Children:** Participants were asked "How many children (below the age of 18) live in your household?" and were provided with options ranging from '1' to '10 or more'. The scores were categorised into 4 groups (0, 1, 2, and 3 or more children).

**2019 Income:** Participants were asked "Please choose from the following options to indicate your approximate gross (before tax is taken away) income in 2019 (last year)" and were provided with 10 categories: '0-€19,999', '€20,000-€29,999', '€30,000-€39,999', '€40,000-€49,999', '€50,000-€59,999', '€60,000-€69,999', '€70,000-€79,999', '€80,000-€89,999', '€90,000-€99,999', and '€100,000 or more'. For the regression analysis, the six highest categories were combined to represent '€50,000 or more'.

**Loss of income:** Participants were asked 'Some people have lost income because of the coronavirus COVID-19 pandemic, for example because they have not been able to work as much or because business contracts have been cancelled or delayed. Please indicate whether your household has been affected in this way'. The response options were "My household has lost income because of the coronavirus COVID-19 pandemic", "My household has not lost income because of the coronavirus COVID-19 pandemic", "I do not know whether my household has lost income because of the coronavirus COVID-19 pandemic".



The first option was considered as ‘Yes – loss of income’ (1) while the other options were collapsed to represent ‘No’ (0).

**Underlying health conditions known to increase risk for severe outcomes in relation to COVID-19 (self and other):** Participants were asked “Do you have diabetes, lung disease, or heart disease?” and the response options were ‘Yes’ (1) and ‘No’ (0). They were also asked “Do any of your immediate family have diabetes, lung disease, or heart disease?” and the response options were ‘Yes’ (1) and ‘No’ (0).

**Covid-19 status, self and other:** Participants were asked “Have you been infected by the coronavirus COVID-19?” and six responses were provided. These were collapsed into a binary variable representing ‘Perceived infection status’. Positive perceived infection status was based on the selection of either, ‘I have the symptoms of the COVID-19 virus and think I may have been infected’ or ‘I have been infected by the COVID-19 virus and this has been confirmed by a test’. Negative perceived infection status was based on the selection of either, ‘No, I have been tested for COVID-19 and the test was negative’, ‘No, I do not have any symptoms of COVID-19’, ‘I have a few symptoms of cold or flu but I do not think I am infected with the COVID-19 virus’ or ‘I may have previously been infected by COVID-19 but this was not confirmed by a test and I have since recovered’. Positive status was coded ‘1’ and negative status coded as ‘0’.

Participants were also asked “Has someone close to you (a family member or friend) been infected by the coronavirus COVID-19?” and four responses were provided. These were collapsed into a binary variable representing ‘Perceived infection status – someone close’. Positive perceived infection status was based on the selection of either, ‘Someone close to me has symptoms, and I suspect that person has been infected’ or ‘Someone who is close to me has had a COVID-19 virus infection confirmed by a doctor’. Negative perceived infection status was based on the selection of either, ‘No’ or ‘Someone close to me has symptoms, but

I am not sure if that person is infected’. Positive status (other) was coded ‘1’ and negative status coded as ‘0’.

**Perceived risk of COVID-19 infection:** Participants were asked “What do you think is your personal percentage risk of being infected with the COVID-19 virus over the next month?” Participants were presented with a visual analogue (i.e. slider) scale with ‘0’ and ‘100’ at the left- and right-hand extremes respectively, shown in 10-point increments, and the labels ‘No Risk’, ‘Moderate Risk’ and ‘Great Risk’ shown on the left, middle and right-hand part of the scale, respectively. This produced a continuous score ranging from 0 to 100, with higher scores reflecting higher levels of perceived risk of being infected by COVID-19. The scores were recoded into ‘Low’ (0 - 33), ‘Moderate’ (34 - 67), and ‘High’ (68 - 100).

**Depression:** Nine symptoms of depression were measured using the *Patient Health Questionnaire-9* (PHQ-9).<sup>10</sup> Participants indicate how often they have been bothered by each symptom over the last two weeks using a four-point Likert scale ranging from 0 (*Not at all*) to 3 (*Nearly every day*). Possible scores range from 0 to 27, with higher scores indicative of higher levels of depression. To identify participants likely to meet the criteria for depressive disorder a cut-off score of  $\geq 10$  was used.<sup>10</sup> This cut-off produces adequate sensitivity (.85) and specificity (.89), corresponds to ‘moderate’ levels of depression, and is used to identify a level of depression that may require psychological intervention. The psychometric properties of the PHQ-9 scores have been widely supported,<sup>11</sup> and the reliability in the current sample was excellent ( $\alpha = .91$ ).

**Generalized anxiety disorder:** Symptoms of generalized anxiety were measured using the *Generalized Anxiety Disorder 7-item Scale* (GAD-7).<sup>12</sup> Participants indicate how often they have been bothered by each symptom over the last two weeks on a four-point Likert scale (0 = *Not at all*, to 3 = *Nearly every day*). Possible scores range from 0 to 21 with higher scores indicative of higher levels of generalized anxiety. A cut-off score of  $\geq 10$  was

used, and this has been shown to result in sensitivity of 89% and a specificity of 82%.<sup>12</sup> The GAD-7 has been shown to produce reliable and valid scores in community studies,<sup>13</sup> and the reliability in the current sample was excellent ( $\alpha = .94$ ).

**Covid-19 related anxiety:** The survey also included a question “How anxious are you about the coronavirus COVID-19 pandemic?”. Participants were provided with a visual analogue (i.e. slider) scale to indicate their degree of anxiety with ‘0’ and ‘100’ at the left and right-hand extremes respectively, and 10-point increments. This produced continuous scores ranging from 0 to 100 with higher scores reflecting higher levels of COVID-19 related anxiety.

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

### *Data Analysis*

First, the prevalence rates of depression, GAD, and GAD or depression were calculated. Next, the bivariate associations between each sociodemographic risk factor and screening positive for GAD or depression were assessed using binary logistic regression analysis. These associations are presented as unadjusted odds ratios (OR). All sociodemographic risk factors were then entered into a binary logistic regression model simultaneously to determine their independent associations with GAD or depression. These associations are presented as adjusted ORs (AOR). Finally, the differences in levels of COVID-19 related anxiety were compared across the different age groups, regions of Ireland, sexes, and those with or without an underlying health condition using one-way between group analysis of variance (ANOVA) and independent samples t-tests.

## **Results**

### *Demographics*

The mean age of the sample was 44.97 years ( $Mdn = 44.00$ ,  $SD = 15.76$ , range 18-88), and 51.5% ( $n = 536$ ) were female, 48.2% male ( $n = 502$ ), and 0.3% ( $n = 3$ ) checked the transgender/prefer not to say/other option. Most respondents resided in Leinster which is in the east of the country and includes the capital city of Dublin ( $n = 576$ , 55.3%). This was followed by Munster, located in the south of the country ( $n = 284$ , 27.3%), Connaught, located in the west of the country ( $n = 125$ , 12.0%), and Ulster, located in the north of the country (excluding the six counties of Northern Ireland;  $n = 56$ , 5.4%). The median time of completion time of the survey was 37.52 minutes. Additional demographic characteristics are presented in Table 1.

Table 1 here

#### *Rates of GAD and depression*

In total, 20.0% (95% CI = 17.55, 22.41) screened positive for GAD, 22.8% (95% CI = 20.22, 25.32) screened positive for depression, and 27.7% (95% CI = 24.94, 30.39) screened positive for GAD or depression. Women had higher rates of GAD (22.4% vs. 17.5%,  $\chi^2(1) = 3.82$ ,  $p = .051$ , OR = 1.36 [95% CI = 1.00, 1.85]), depression (26.3% vs. 18.9%,  $\chi^2(1) = 8.04$ ,  $p = .005$ , OR = 1.53 [95% CI = 1.14, 2.05]), and GAD or depression (32.8% vs. 22.1%,  $\chi^2(1) = 14.91$ ,  $p < .001$ , OR = 1.72 [95% CI = 1.31, 2.27]).

#### *Correlates of screening positive for GAD or depression*

The binary logistic regression model of screening positive for GAD or depression with all predictor variables included was statistically significant ( $\chi^2(24) = 213.40$ ,  $p < .001$ ), and the unadjusted and adjusted associations are presented in Table 2. Screening positive for GAD or depression was significantly associated with younger age, female sex, loss of income due to the COVID-19 pandemic, having a confirmed/suspected COVID-19 infection, knowing a loved one with a confirmed/suspected COVID-19 infection, and moderate and high levels of perceived risk of COVID-19 infection.

Table 2 here

### *COVID-19 anxiety*

The mean COVID-19 related anxiety score was 71.60 ( $Mdn = 77.00$ ,  $SD = 24.42$ , range = 0-100). There was a statistically significant main effect for age ( $F(5, 1035) = 7.29$ ,  $p < .001$ ,  $\eta^2 = .03$ ) with those aged 65 and older reporting the highest levels of COVID-19 anxiety ( $M = 77.83$ ,  $SD = 22.23$ ) (see Figure 1). Post-hoc analyses using the Tukey HSD test showed that those aged 65 and older had significantly ( $p < .05$ ) higher levels of COVID-19 anxiety than those aged 18-24 ( $M = 61.06$ ,  $SD = 28.50$ ) and 25-34 ( $M = 69.83$ ,  $SD = 25.59$ ).

Figure 1 here

There were no statistically significant differences in the mean levels of COVID-19 anxiety between the sexes ( $t(1036) = 1.43$ ,  $p = .152$ ,  $d = .09$ ), between those with and without an underlying health condition ( $t(1039) = 0.71$ ,  $p = .475$ ,  $d = .06$ ), and across the four regions of Ireland ( $F(3, 1037) = 0.63$ ,  $p = .596$ ,  $\eta^2 = .002$ ).

### **Discussion**

Findings from the current study offer initial insights into the rates of GAD and depression within the general adult population of the Republic of Ireland during the early period of the COVID-19 quarantine measures, the factors associated with screening positive for either one of these mental health problems, and the extent to which these findings align with results from a parallel survey conducted one week earlier in the UK. Rates of GAD depression, and GAD or depression closely mirrored those found in the UK<sup>8</sup> with over one-in-four Irish adults screening positive for GAD or depression. The rates of GAD and depression found in this study do not differ markedly from those reported in previous national prevalence studies in the UK.<sup>14</sup>

Screening positive for GAD or depression in this study was significantly associated with being younger, being female, experiencing a loss of income due to the COVID-19

pandemic, having a confirmed/suspected case of COVID-19, knowing a loved with a confirmed/suspected case of COVID-19, and moderate or high levels of perceived risk of COVID-19 infection within the next month. Four of these variables – younger age, lost income due to the COVID-19 pandemic, a confirmed/suspected infection of COVID-19 in oneself, and increased perceived risk of COVID-19 infection in the next month – were also associated with screening positive for GAD or depression in the UK.<sup>8</sup> It would seem, therefore, that these are risk factors for GAD or depression irrespective of culture or nationality.

Some unique correlates of GAD or depression did emerge across the two studies. In Ireland, females were significantly more likely to screen positive for GAD or depression, and having a loved one with a suspected/confirmed case of COVID-19 was also associated with increased risk of anxiety or depression. Contrastingly, in the UK people with multiple children in the home, those with a lower income in 2019, those with an underlying health condition, and those with a loved one with an underlying health condition were more likely to screen positive for GAD or depression. These findings suggest that although there are likely to be common factors across nations associated with risk for anxiety and depression, unique contextual risk factors are also likely to exist. For example, the latest Organization for Economic Cooperation and Development (OECD) figures show that the Republic of Ireland's GDP per capita is nearly twice that of the UK, the national net income in Ireland is approximately 20% higher than in the UK, and Ireland's social welfare provisions are substantially higher than the UK's.<sup>15,16</sup> The greater wealth and social services enjoyed in Ireland may help to explain why lower income was associated with anxiety or depression in the UK but not in Ireland. Additionally, the death rate from COVID-19 in the UK is more than twice as high as in Ireland (272.4 per 1 million vs. 123.5 per 1 million),<sup>17,18</sup> which may account for why the presence of an underlying health condition associated with elevated risk

of death from COVID-19 was associated with anxiety or depression in the UK, but not in Ireland.

We also found that Irish citizens aged 65 and older had the highest levels of anxiety about the COVID-19 pandemic. This is consistent with the early identification of this age group as being particularly vulnerable to COVID-19 related mortality.<sup>19,20</sup> The dissemination of accurate information and distribution of appropriate material supplies, including food, clothes, and accommodation conducive to physical distancing, may therefore benefit from complementary activities to alleviate COVID-related anxiety. For example, community outreach activities that make use of low-intensity psychological interventions,<sup>21</sup> safe-distancing forms of exercise, technology-supported social activities, and videoconferencing solutions for the delivery of mental health care services.<sup>22</sup> This is considered especially important given the 30% increase in suicide among those aged 65 years and older observed in Hong Kong during the severe acute respiratory syndrome (SARS) epidemic in 2003.<sup>23</sup> Notably, it must be stressed that at the onset of the lockdown measures the Irish government initiated a programme of ‘cocooning’ the elderly – and other persons deemed extremely medically vulnerable – with due attention paid to ensuring their psychological wellbeing.

Current findings are also consistent with the results of a recent rapid review of the literature on the psychological effects of quarantine which found that poorer psychological responses were associated with a heightened fear of infection and loss of income due to quarantine measures.<sup>5</sup> Mitigating the impact of these factors may include clear and accurate health communication and financial assistance for those who have experienced financial loss as a result of the pandemic. The Irish and British governments have both put in place financial support measures for workers and business owners affected by the pandemic, however, loss of income was nonetheless associated with higher risk of GAD or depression in the two countries.

The current study contributes towards answering a wider, international call for a multi-disciplinary approach to better understand the social, psychological, and neurological impact of COVID-19 as an immediate research priority.<sup>24</sup> Specifically, a recent position paper published in the *Lancet Psychiatry* calls for immediate improved monitoring of the reported rates of anxiety, depression, and other outcomes including self-harm and suicide, across the general population in order to better inform global responses to pandemics. Likewise, the paper stresses a need to identify the mechanisms that can help explain differential psychological outcomes including a better understanding of the factors that exacerbate and protect against the effects of quarantine measures on psychological health. Results from a longitudinal survey conducted across 190 Chinese cities, for example, found that a high level of confidence in doctors, perceived likelihood of survival and low risk of contracting COVID-19, satisfaction with health information, and personal precautionary measures all protected against increased stress, depression, and anxiety during the COVID-19 response in China.<sup>2</sup>

The current study is not without limitations. First, while the sample is representative of the general adult population (as per the 2016 census) across a number of key demographic indicators, the study is prone to a number of sampling biases. Excluded from the sample were individuals within institutionalised care, including prisons, direct provision centres, and inpatient care, all of whom are known to be at higher risk of COVID-19 transmission and psychological distress.<sup>25,26</sup> The exclusion of these sub-samples from the analysis might therefore serve to under-estimate the true population prevalence of anxiety and depression in Ireland during the current pandemic. Additionally, we were unable to determine the participation rate which poses a threat to the representativeness of the sample and limits the generalizability of these results. Second, the self-report nature of the survey differs from clinically administered interviews, and may have resulted in an over-estimation of the



prevalence rates for both anxiety and depression measures. Third, as the first of multiple surveys planned during the course of the pandemic, the current study does not yet offer evidence for any change(s) in levels of anxiety or depression associated with the pandemic itself.

The results of this study offer a useful starting point through which to identify potential changes in GAD and depression throughout the duration of the pandemic in the Republic of Ireland, and contributes to our growing understanding of how this pandemic and the quarantine measures implemented to ensure our physical safety may affect our psychological well-being. This is considered particularly important in light of the results of another recent general population survey in the UK which found greater concern among respondents for the social and psychological impacts of the pandemic, compared to the physical impact of COVID-19.<sup>27</sup>

Table 1. Sample demographics (N = 1,041)

	<i>n</i>	%
Born in the Republic of Ireland		
Yes	736	70.7%
No	305	29.3%
Grown up in Ireland since age 16		
Yes	824	79.2%
No		
Ethnicity		
Irish	779	74.8%
Irish Traveller	3	0.3%
African	20	1.9%
Other Black Background	3	0.3%
Chinese	4	0.4%
Other Asian Background	33	3.2%
Other	19	1.8%
Educational Attainment		
No qualification	12	1.2%
Completed Junior/Inter cert (i.e., end of mandatory education at age 15/16)	65	6.4%
Completed Leaving Cert (i.e., end of formal secondary education at age 17/18)	223	22.4%
Undergraduate degree	234	22.5%
Postgraduate degree	206	19.8%
Post-Leaving Certificate diploma, technical qualification, or ‘other’ qualification	291	27.9%
Employment Status		
Full-time or self-employment	451	43.3%
Part-time or self-employment	163	15.7%
Retired	156	15.0%
Students	66	6.3%
Unemployed and seeking work	88	8.4%
Recently made unemployed due to COVID-19	59	5.7%
Unable to work (i.e. due to disability, illness, or other reason)	58	5.6%

Table 2. Unadjusted and adjusted association from binary logistic regression analysis predicting anxiety or depression.

	N	Anxiety or depression N (%)	Unadjusted OR (95% Confidence Interval)	Adjusted OR (95% Confidence Interval)
Age				
18-24	116	65 (56.0%)	-	-
25-34	200	83 (41.5%)	0.56 (0.35 - 0.88)*	0.51 (0.31 - 0.85)**
35-44	214	60 (28.0%)	0.31 (0.19 - 0.49)***	0.28 (0.17 - 0.47)***
45-54	165	37 (22.4%)	0.23 (0.14 - 0.38)***	0.20 (0.11 - 0.36)***
55-64	219	31 (14.2%)	0.13 (0.08 - 0.22)***	0.11 (0.06 - 0.19)***
65+	127	12 (9.4%)	0.08 (0.04 - 0.17)***	0.09 (0.04 - 0.19)***
Sex				
Male	502	111 (22.1%)	-	-
Female	536	176 (32.8%)	1.72 (1.31 - 2.27)***	1.49 (1.09 - 2.04)*
Living location				
City	255	86 (33.7%)	1.64 (1.13 - 2.38)**	1.13 (0.73 - 1.74)
Suburb	188	55 (29.3%)	1.33 (0.88 - 2.01)	1.32 (0.83 - 2.11)
Town	298	76 (25.5%)	1.10 (0.76 - 1.60)	0.93 (0.61 - 1.41)
Rural	300	71 (23.7%)	-	-
Lone Adult				
No	849	235 (27.7%)	-	-
Yes	192	53 (27.6%)	1.00 (.70 - 1.41)	1.36 (0.90 - 2.06)
Number of children				
0	628	153 (24.4%)	-	-
1	194	68 (35.1%)	1.68 (1.19, 2.37)**	0.94 (0.62 - 1.41)
2	165	55 (33.3%)	1.55 (1.07, 2.25)*	1.08 (0.70 - 1.67)
3+	54	12 (22.2%)	0.89 (0.46, 1.73)	0.85 (0.40 - 1.81)
2019 Income				
€0 - €19,999	478	143 (29.9%)	1.55 (0.69 - 3.47)	1.37 (0.54 - 3.47)

€20,000 - €29,999	335	87 (26.0%)	1.27 (0.56 - 2.89)	1.30 (0.51 - 3.32)
€30,000 - €39,999	129	35 (27.1%)	1.35 (0.56 - 3.23)	1.41 (0.52 - 3.84)
€40,000 - €49,999	62	15 (24.2%)	1.16 (0.44 - 3.07)	0.83 (0.26 - 2.61)
€50,000 or more	37	8 (21.6%)	-	
Lost income				
Not lost income	596	126 (21.1%)	-	
Lost Income	445	162 (36.4%)	2.14 (1.62 - 2.81)***	1.61 (1.18 - 2.20)**
Pre-existing health condition				
Self				
No	876	235 (26.8%)	-	-
Yes	165	53 (32.1%)	1.29 (0.90 - 1.85)	1.30 (0.83 - 2.03)
Someone close				
No	741	192 (25.9%)	-	-
Yes	300	96 (32.0%)	1.35 (1.00 - 1.80)*	0.94 (0.66 - 1.34)
Perceived Infection Status				
Self				
No	997	257 (25.8%)	-	-
Yes	44	31 (70.5%)	6.87 (3.54 - 13.32)***	4.48 (2.09 - 9.60)***
Someone Close				
No	971	246 (25.3%)	-	-
Yes	70	42 (60.0%)	4.42 (2.68 - 7.29)***	3.38 (1.86 - 6.13)***
Personal Risk 1month				
Low	374	71 (19.0%)	-	-
Moderate	448	128 (28.6%)	1.71 (1.23 - 2.37)**	2.01 (1.39 - 2.91)***
High	219	89 (40.6%)	2.92 (2.01 - 4.25)***	2.80 (1.84 - 4.27)***

\* p <.05, \*\* p <.01, \*\*\*p <.001.

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